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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/886,447	06/21/2001	Michael Albert Haase	56033USA9A.002	5768

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EXAMINER

LEURIG, SHARLENE L

ART UNIT PAPER NUMBER

2879

DATE MAILED: 02/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/886,447

Applicant(s)

HAASE ET AL.

Examiner

Sharlene Leurig

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 January 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 23-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) 1-37 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on 21 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3,4,5
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of claims 23-32 in Paper No. 8 is acknowledged. The traversal is on the ground(s) that a thorough search for the article claims to display panels would also involve a search of the art classifications for methods of making organic light-emitting pixels and displays comprising such pixels. This is not found persuasive because a thorough search for the article claims to display panels would not require a search of the art classifications for methods of making organic light-emitting pixels or displays.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 23, 24, 27-32 are rejected under 35 U.S.C. 102(b) as being anticipated by Tang et al. (5,294,870) (of record). Tang discloses an organic-light emitting full color display panel where a blue dopant is dispersed in at least one non-blue sub-pixel (column 8, lines 14-16). Regarding claim 24, the blue dopant is dispersed in an electron transporting layer. The EL medium is formed of four layers, including two layers functioning as an electron injecting and transporting zone (EIT) comprising both an

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electron injecting layer and the luminescent layer (column 11, lines 39-43) which is formed of a host and a blue dopant (column 15, lines 49-50). Therefore the luminescent layer can be regarded as an electron transporting layer. Regarding claim 27, a mask is integrated with the display device (Figure 2, element 107). Regarding claims 28 and 31, the mask comprises a photoresist (column 5, lines 26-37). Regarding claims 29 and 32, the photoresist is a dry film photoresist (column 5, lines 46-50). Regarding claim 30, the display panel comprises a plurality of full color pixels formed on a substrate (Figure 2, element 105), each full color pixel comprising a red, a green, and a blue subpixel (Figure 2, elements R_P , G_P , B_P), an integrated shadow mask comprising a plurality of ribs (107) erected on the substrate, wherein the pitch of the ribs is smaller than the pitch of the pixels. For each pixel there are several ribs (Figure 2, element 107), where the pixel is the unit comprising elements R_P , G_P and B_P ; therefore the pitch of the ribs is smaller than the pitch of the pixels.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tang et al. (5,294,870) (of record) in view of Shieh et al. (EP 0 762 806 A2) (of record). Tang discloses an organic light emitting device with all the limitations discussed above

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including a blue dopant dispersed in a host layer, but lacks a blue dopant dispersed in a host layer between an electron transporting layer and a hole transporting layer.

Tang discloses the stability and efficiency merits of an organic EL medium having more than just a luminescent layer and two electrodes (column 11, lines 51-61).

Shieh teaches an organic EL medium having a light-emitting layer disposed in between a hole transporting layer and an electron transporting layer (column 6, lines 14-25) and teaches the use of various combinations of hole injecting and transporting zones to create a desired OEL medium.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Tang's OEL medium having a blue dopant dispersed in a host layer with a separate electron transporting layer and sandwiching the host layer between a hole transporting layer and an electron transporting layer in order to further increase the stability and efficiency of the device.

6. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tang et al. (5,294,870) (of record) in view of Shi et al. (5,668,438). Tang discloses an organic light-emitting device with all the limitations discussed above, but lacks a blue dopant dispersed in a hole transporting layer.

Tang discloses the stability and efficiency merits of an organic EL medium having more than just a luminescent layer and two electrodes (column 11, lines 51-61).

Shi teaches doping the hole transporting layer in order to obtain efficient light emission from an organic EL device (column 2, lines 1-6).

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Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Tang's OEL medium having a blue dopant and a hole transporting layer, with the dopant dispersed in the hole transporting layer in order to obtain an efficient light emitting device, as taught by Shi.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sharlene Leurig whose telephone number is (703)305-4745. The examiner can normally be reached on Monday through Friday, 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (703)305-4794. The fax phone numbers for the organization where this application or proceeding is assigned are (703)308-7382 for regular communications and (703)308-7382 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0956.

Sharlene Leurig
February 7, 2003

SL


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